

## USDA California Climate Hub News & Notes

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**United States Department of Agriculture  
California Climate Hub**

The USDA California Climate Hub within the Agricultural Research Service at the UC Davis John Muir Institute works with partners across federal and state agencies, universities, and industry to help enable climate-informed decision making and advance the adaptive capacity for California's working and managed agricultural, range, and forest lands. These newsletters are just one approach toward meeting this objective. We encourage you to get in touch with us if we can be of further service or assistance.

[Visit the USDA Climate Hub Website](#)

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### Information for Wildfire Season

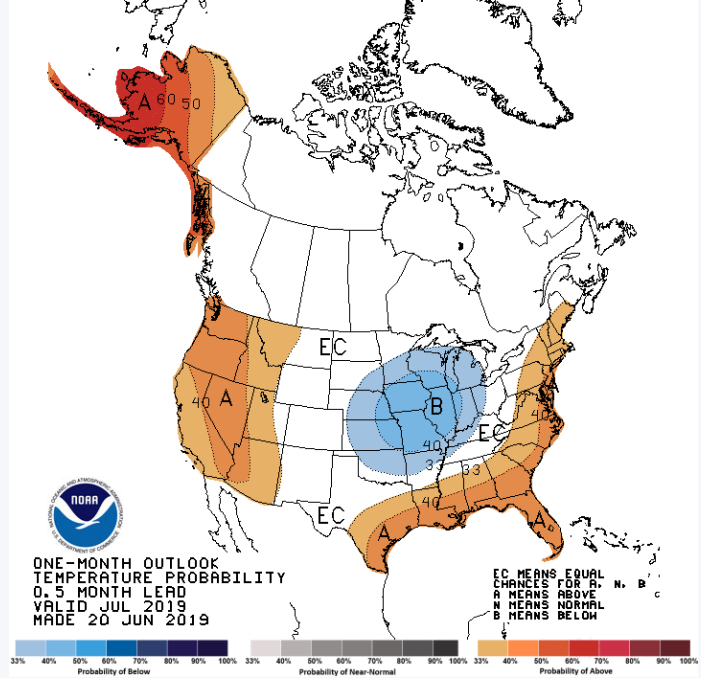
Earlier this month, the state also saw its first wildfires, beginning the ever-lengthening wildfire season. The Hub has compiled a number of [wildfire resources on our website](#). As we move into the hot and dry summer and fall seasons, these resources can be useful for wildfire preparation, monitoring, and response across the state.

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### One-Month Climate Outlook

June began with a record-breaking heatwave before settling back into more seasonable temperatures. Looking forward, the 30-day outlook calls for a 33-40% chance of above-average temperatures. We have settled into our dry season and NOAA's Climate Prediction Center anticipates our normal

precipitation regimes over the next month.



## Climate Prediction Center Seasonal Outlooks

### Current Drought Monitor

U.S. Drought Monitor  
California

June 25, 2019  
(Released Thursday, Jun. 27, 2019)  
Valid 8 a.m. EDT



The protracted and wet winter and spring have helped stave off drought across much of the state to date. The most recent drought monitor shows only abnormally dry conditions exist in San Diego, Orange, and eastern Riverside counties.

### California's 4th Climate Change Assessment: Bay Area

The climate of the San Francisco Bay Area supports an abundance of natural biological diversity, a world-renowned wine industry, and dairy and small specialty-crop production, along with 7 million people producing nearly 30% of the state's economic output. The potential for climate change to disrupt

the natural, social, and built systems of the Bay Area is significant. Projected changes include:

- Greater disparity between wet and dry years
- An increase in the intensity of winter storms will raise the risk of flooding and challenge stormwater management practices and infrastructure
- Longer and deeper drought
- Inundation in some coastal areas due to sea level rise of up to 3m by 2100
- Reduction in wetland habitat due to rising seas
- Vulnerabilities to wine grape production due to extreme temperatures and increased water scarcity
- More frequent heatwaves, resulting in negative impacts to human health and straining the electrical grid



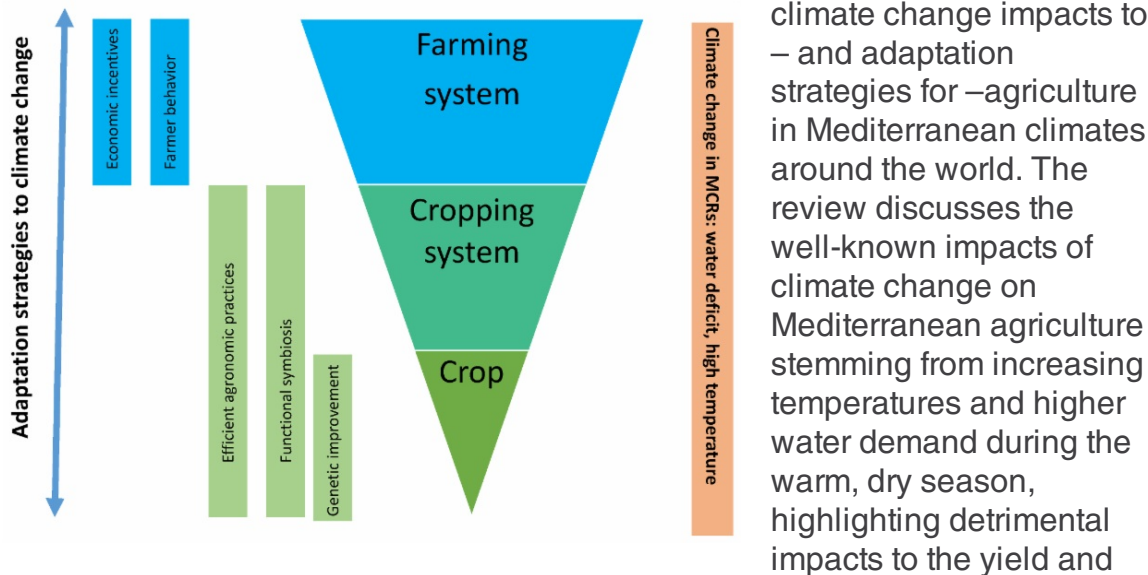
The authors of the Bay Area Climate Assessment also note the complex relationships between socioeconomic trends, land use, transportation, and energy in both the efforts to mitigate climate change and in the potential impacts of climate change. Current and future policies aimed at mitigating climate change will undoubtedly shape land use, residential and commercial building, infrastructure development, and energy demands. Reductions in affordable housing opportunities in existing urban areas will drive increased building at greater distances, requiring further infrastructure development. Additionally, as development increases away from the coastal areas with marine-moderated temperatures, increased energy costs will be required to effectively cool and heat homes and commercial structures. To address these and other challenges, Bay Area governments and nonprofits are advancing climate adaptation and resiliency projects to aid the region in planning for the future.

### Bay Area Regional Climate Change Assessment

## In the Literature: A review on climate change impacts and adaptation strategies for agriculture in Mediterranean climate regions

*A schematic representation of adaptation strategies of agriculture to climate change in Mediterranean-climate regions, from del Pozo et al. 2019.*

[A recent review in the journal Sustainability](#) highlighted the shared



quality of grains, legumes, fruits, and nuts, and the authors suggest that increasing water productivity through the development of drought-adapted cultivars should be a priority in Mediterranean regions. To this end, the review offers that the use of biotechnological tools can not only aid crop adaptation, but do so with an increased output of potentially successful cultivars while reducing costs of breeding programs. The review also touches on improving agronomic practices, encouraging healthy agroecosystems, and the economic and social impacts of grower adaptation to climate change.

Ultimately, the authors highlight the need to link science and policy in efforts to increase adaptation and resiliency of agriculture in Mediterranean climate regions, and they underscore the particular necessity for adapting for a water-limited future. Whether applying adaptive strategies to the crop or farm level, the conclusion of this review and scores of other scientific literature is that continued investment in agricultural research and the translation of those findings into technological and policy solutions will be critical in meeting the challenges growers will face under climate change. [The full review can be read here.](#)

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## The Hub's 3rd Quarter Highlights

- The CACH partnered with UC Cooperative Extension, NDMC, and NIDIS to hold four drought planning workshops geared towards rangeland producers.
  - We participated in the 2019 CalCAN summit in an outreach capacity, presenting attendees with an overview of the Hub mission, highlights of our on-going work, and a call for engagement opportunities. We received positive feedback from attendees who expressed interest in future engagement and collaborative opportunities.
  - The CACH partnered with UC International Programs, Cornell University, and Ecoagriculture Partners, along with USDA Foreign Agricultural Service and Office of the Chief Economist to develop a landscape-scale climate-smart agriculture curriculum for delivery to developing nation sub-national government decision makers.
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# Upcoming Events

[Webinar: Partnership for Ag Resource Management, July 16th, 8am PDT](#)

[Webinar: CA-NV Drought & Climate Outlook, July 22nd, 11am PDT](#)

[Meeting: California Society of American Foresters Summer Meeting, August 15th - 16th, Mammoth Lakes](#)

[Symposium: Climate Change and the Ecology of Sierra Nevada Forests, September 20th - 21st, Merced](#)

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## Stay in Touch

Let us know if you have news worthy items, outputs or products, or associated resources that may be of interest to the USDA California Climate Hub community. You can email items to [Steven Ostoja](#), USDA California Climate Hub Director, or to [Lauren Parker](#), USDA California Climate Hub Postdoctoral Fellow.



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